

Abstract of the Specification

A semiconductor laser diode and method are described, wherein the path of the current through the device between the positive and negative conductors is controlled. Lateral spread of the gain current in the active region is prevented by implanting protons in areas of the active layer flanking a desired gain region. The implanted regions become less conductive, and prevent lateral spread of the gain current. The position of the implanted regions can be selected so that the gain current only crosses a portion of the active layer that supports desired lateral modes of the laser light.